

Claims

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1. Device for die-cutting a stack of sheet-like materials, particularly labels, whereby the stack to be punched is pressed into the die-cutter blade by a relative movement of a punching ram and a hollow cylindrical die-cutter blade, characterized in that the die-cutter blade (18) is adjustably held in a frame (16), which can be slid into a receiving apparatus (13) perpendicular to the relative direction of motion (K) of the punching ram (7) and the die-cutter blade (18), and fixed in a centered position, whereby the receiving apparatus (13) is mounted in a punch platen (12) and is adjustable relative to it.
2. Device according to claim 1, characterized in that the receiving apparatus (13) exhibits two gibs (14) and (15) arranged in parallel, between which the frame (16) can be slid.
3. Device according to claim 2, characterized in that the gibs (14, 15) are designed as wedged gibs, whereby the frame (16) is introduced between the sides of the gibs (14, 15) facing one another and in each case is positioned between a gib (14, 15) and the punch platen (12).
4. Device according to one of the claims 1 to 3, characterized in that the frame (16) can be slid in a plane parallel to the punch platen (12), and in particular is adjustable in the direction of two major axes arranged essentially perpendicular to one another, and is also tiltable in the plane.
5. Device according to claim 4, characterized in that the frame (16) exhibits a T-slot (42) essentially in the direction of one major axis, in which a centering bolt (37), moveable in essentially the direction of the other major axis, can be placed, which bolt in particular is mounted in the punch platen (12).
6. Device according to claim 4 or 5, characterized in that the gibs (14, 15) are arranged parallel to one another, and servomotors (33) are provided for the gibs (14, 15), which are mounted in the punch platen (12), whereby one servomotor (33) accommodates the ends of the gibs for tilting only, another servomotor (33) accommodates the other ends of the gibs for tilting and sliding in the longitudinal direction of the gibs (14, 15).
7. Device according to claim 5 or 6, characterized in that the direction of adjustment for the servomotors (33) runs essentially perpendicular to the direction of motion of the centering bolt (37).
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8. Device according to one of the claims 2 to 7, characterized in that a clamping element (51, 52) is provided that fixes the frame (16) in a receiving apparatus (13) when the former is in the adjusted position, in particular the clamping element (51, 52) is mounted in one (14) of the gibs (14, 15) and presses the frame (15) against the other gib 15.
9. Device according to one of the claims 2 to 8, characterized in that the adjustment of the frame (16) in the gibs (14, 15) and/or the adjustment of the gibs (14, 15) relative to the punch platen (12) is achieved with motors.
10. Device according to one of the claims 5 to 9, characterized in that the fixation of the frame (16) in the receiving apparatus (13) and/or the fixation of the frame (16) by means of the centering bolt (37) is achieved under power, in particular, pneumatically.
11. Device according to one of the claims 1 to 10, characterized in that clamping elements (17) mounted in the frame (16) and adjustable and lockable relative to the frame (16) are provided for fixation of the die-cutter blade (18), and also an adjusting element (70, 72) mounted in the frame (16) is provided for aligned orientation with at least one orientation edge of the adjusting element (70, 72) with one knife edge portion (69) of the die-cutter blade (18) prior to fixation of the adjusted clamping elements (17).
12. Device according to claim 11, characterized in that the adjusting element is designed as an adjusting ruler (70) and the orientation occurs along one of the orienting edges (86) of the adjusting ruler (70).
13. Device according to one of the claims 1 to 12, characterized in that the frame (16) exhibits a frame portion (40, 41) and a primary clamping beam (53), which is slideable and fixable within the frame portion (40, 41), whereby the die-cutter blade (18) is held in a primary clamping beam (53) and the frame portion (40, 41), in a distance (41) of the frame portion (40, 41) which is arranged in parallel to the primary clamping beam (53); and parallel to the primary clamping beam (53) a secondary clamping beam (54) is arranged, which is slideable and fixable within the frame portion (40, 41), as well as clamping agents (58) for tensioning the primary and secondary clamping beam (53, 54) are provided, in such a way that the primary clamping beam (53) can be tensioned against the die-cutter blade (18).

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14. Device according to one of the claims 1 to 13, characterized in that the frame (16) exhibits the frame portion (40, 41) and a least one adjustable clamping beam (53) within the frame portion (40, 41) for the purpose of locking the die-cutter blade (18) in place, the clamping beam (53) lies on the punch platen (12) in the area of the beam's ends, the portion (41) of the frame portion (40, 41) which serves to accommodate the die-cutter blade (18) lies upon the punch platen (12) and the portion (41) of the frame portion (40, 41) facing away from this portion (41) of the frame portion (40, 41) is arranged at a distance from the punch platen (12).

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Summary**Device for Die-Cutting a Stack of Sheet-like Materials**

The invention concerns a device for die-cutting a stack of sheet-like materials, particularly labels, whereby the stack is pressed into the die-cutter blade by a relative movement of a punching ram and a hollow cylindrical die-cutter blade.

For a device such as this it is proposed that the die-cutter blade 18 is adjustably held in a frame 16, which can be slid into a receiving apparatus 13 perpendicular to the relative direction of motion (K) of the punching ram 7 and die-cutter blade 18 and fixed in a centered position, whereby the receiving apparatus 13 is mounted in a punch platen 12 and is adjustable relative to it.

A die-cutting device of this type is built very compactly as a consequence of the particular arrangement of the die-cutter blade in the direction of relative motion of the punching ram and die-cutter blade.

(Fig. 1)

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